

CLAIMS

What is claimed is:

1. A receiver for a condenser system, said condenser system including two spaced apart headers, and said receiver comprising:

 a body configured for fluid communication with one of said spaced apart headers, said body having first and second ends;

 a first cap coupled to said body at said first end and having a first saddle portion adapted for coupling to said one of said spaced apart headers;

 a tube section coupled to said body at said second end;

 a service cartridge being inserted through said tube section into an interior cavity of said body; and

 a second cap removably interconnected with said tube section following insertion of said service cartridge into said interior cavity.

2. A receiver as claimed in claim 1 wherein said first cap and said tube section are nondetachably coupled to said body.

3. A receiver as claimed in claim 1 wherein said tube section includes a second saddle portion adapted for coupling to said one of said spaced apart headers.

4. A receiver as claimed in claim 1 wherein said tube section includes a threaded region for mating engagement with a corresponding threaded portion of said second cap.

5. A receiver as claimed in claim 1 wherein said tube section comprises:

a header interface coupled to said body at said second end and adapted for non-detachable coupling to said one of said spaced apart headers, said header interface having a central opening; and

a tubular collar having an interior region coupled to an exterior surface of said header interface about said central opening, and said second cap being removably interconnected with said tubular collar.

6. A receiver as claimed in claim 1 wherein said second cap comprises a slot in an inward surface of said second cap, said slot providing a pathway for pressure relief when said second cap is disconnected from said tube section.

7. A receiver as claimed in claim 1 wherein said second cap comprises holes inwardly extending from an outer surface of said second cap, said holes enabling application of a prong wrench to effect angular adjustment of said second cap.

8. A receiver as claimed in claim 1 further comprising:
means for separating said body of said receiver into a first chamber and a second chamber;

an inlet aperture extending through said body into said first chamber for directing a refrigerant from a first portion of said one of said headers into said first chamber; and

an outlet aperture extending through said body into said second chamber for directing said refrigerant from said second chamber to a second portion of said one of said headers.

9. A receiver as claimed in claim 8 wherein said separating means comprises a sleeve coupled about said service cartridge and extending from an outer surface of said service cartridge to an inner surface of said body.

10. A receiver as claimed in claim 8 wherein said service cartridge comprises a first opening positioned in said first chamber and a second opening positioned in said second chamber, said refrigerant from said first chamber entering said service cartridge through said first opening and exiting said service cartridge through said second opening.

11. A receiver as claimed in claim 1 wherein said service cartridge comprises:

a substantially-rigid tubular member having third and fourth ends;

a first cover at said third end and having a first opening extending through said first cover for receiving a refrigerant; and

a second cover at said fourth end and having a second opening extending through said second cover for discharging said refrigerant.

12. A receiver as claimed in claim 11 wherein said service cartridge further comprises rib members radially projecting from an outer surface of said substantially-rigid tubular member to abut an inner surface of said body.

13. A receiver as claimed in claim 11 wherein said service cartridge comprises:

a first filter positioned in an interior of said service cartridge proximate said third end;

a second filter positioned in said interior of said service cartridge proximate said fourth end; and

a desiccant interposed between said first and second filters.

14. A receiver as claimed in claim 1 wherein said service cartridge comprises:

a substantially-rigid tubular member having third and fourth ends;

a cover at said third end; and

a spindle extending from said cover for retention in a socket of said second cap.

15. A receiver as claimed in claim 14 wherein said second cap comprises an inward surface, and said socket includes a flared region at said inward surface.

16. A receiver as claimed in claim 1 wherein said service cartridge comprises:

a substantially-rigid tubular member having third and fourth ends;

a cover at said fourth end; and

a spindle extending from said cover and abutting said first cap.

17. A condenser system comprising:
two spaced apart headers;
a plurality of parallel tubes extending between said headers for passing refrigerant between said headers; and
a receiver in fluid communication with one of said spaced apart headers, said receiver including:
a body having first and second ends;
a first cap coupled to said body at said first end and having a first saddle portion adapted for coupling to said one of said spaced apart headers;
a tube section coupled to said body at said second end and having a second saddle portion adapted for coupling to said one of said spaced apart headers, said first cap and said tube section being nondetachably coupled to said body;
a service cartridge inserted through said tube section into an interior cavity of said body; and
a second cap removably interconnected with said tube section following insertion of said service cartridge into said interior cavity.

18. A condenser system as claimed in claim 17 wherein said tube section comprises:
a header interface coupled to said body at said second end, said header interface including said second saddle portion, and said header interface having a central opening; and
a tubular collar having an interior region coupled to an exterior surface of said header interface about a perimeter of said central opening, and said second cap being removably interconnected with said tubular collar.

19. A condenser as claimed in claim 17 wherein said second cap comprises a slot inwardly extending from an inner surface of said second cap, said slot providing a pathway for pressure relief when said second cap is disconnected from said tube section.

20. A condenser as claimed in claim 17 wherein said second cap comprises holes inwardly extending from an outer surface of said second cap, said holes enabling application of a prong wrench to effect angular adjustment of said second cap.

21. A service cartridge for a receiver in a condenser system, said receiver having a body configured for fluid communication with a header of said condenser system, and a removably attachable cap for accessing an interior cavity of said body, said service cartridge insertable into said interior cavity, and said service cartridge comprising:

- a substantially-rigid tubular member having first and second ends;

- rib members radially extending from an outer surface of said substantially-rigid tubular member and configured to abut an inner surface of said tubular member;

- a first cover at said first end and having a first opening extending through said first cover for receiving a refrigerant; and

- a second cover at said second end and having a second opening extending through said cover for discharging said refrigerant.

22. A service cartridge as claimed in claim 21 further comprising a spindle extending from said first cover adapted for retention in a socket region in said removably attachable cap.

23. A service cartridge as claimed in claim 21 wherein said receiver further includes a second cap on an opposite end of said body from said removably attachable cap, and said service cartridge further includes a spindle extending from said second cover, said spindle being configured to abut an inner surface of said second cap.

24. A service cartridge as claimed in claim 21 further comprising:

a first filter positioned in an interior of said service cartridge proximate said first end; and

a second filter positioned in said interior of said service cartridge proximate said second end.

25. A service cartridge as claimed in claim 24 further comprising a desiccant interposed between said first and second filters.

26. A receiver for a condenser system, said condenser system including two spaced apart headers, and said receiver comprising:

- a body configured for fluid communication with one of said spaced apart headers, said body having first and second ends;

- a first cap coupled to said body at said first end and having a first saddle portion adapted for coupling to said one of said spaced apart headers;

- a tube section coupled to said body at said second end;

- a service cartridge inserted through said tube section into an interior cavity of said body, said service cartridge including a substantially-rigid tubular member having third and fourth ends, a first cover at said third end and having a first opening extending through said first cover, and a second cover at said fourth end and having a second opening extending through said second cover;

- a second cap removably interconnected with said tube section following insertion of said service cartridge into said interior cavity;

- means for separating said body of said receiver into a first chamber and a second chamber, said first cover being positioned in said first chamber, and said second cover being positioned in said second chamber;

- an inlet aperture extending through said body into said first chamber; and

- an outlet aperture extending through said body into said second chamber.

27. A receiver as claimed in claim 26 wherein said separating means comprises a sleeve coupled about said service cartridge and extending from an outer surface of said service cartridge to abut an inner surface of said body.

28. A receiver as claimed in claim 26 wherein said first cover comprises a spindle extending from said first cover for retention in a socket region in said second cap.

29. A receiver as claimed in claim 28 wherein said spindle is a first spindle, said socket region is a first socket region, and said second cover comprises a second spindle extending from said second cover for retention in a second socket region in said first cap.